

AMENDMENTS TO THE CLAIMS:

The listing of claims will replace all prior versions, and listings of claims in the application:

LISTING OF CLAIMS:

1. (Canceled)

2. (Canceled)

3. (Canceled)

4. (Canceled)

5. (Canceled)

6. (Canceled)

7. (Canceled)

8. (Currently amended) In a printing system, a ~~close~~closed feedback loop method for detecting defects of a printed image to analyze print quality of the printed image, said method comprising the steps of:

(a) generating a half-tone image having one or more half-tone values;

(b) printing the half-tone image;

(c) scanning the printed half-tone image to obtain half-tone values for the half-tone image printed wherein the half-tone values of the printed half-tone image are fed back to the printing system in a closed loop manner; and

(d) comparing the printed half-tone image to the originally generated half-tone image by

(d₁) determining a half-tone value of printed half-tone image for each pixel;

(d₂) calculating differences of half-tone values between the printed half-tone image and the originally generated half-tone image on a pixel-by-pixel basis;

(d₃) examining the difference of a pixel to determine whether the pixel of the printed half-tone image falls into a defect; and

(e) analyzing the comparison of the printed half-tone values to the original

half-tone values to determine print quality of the printed half-tone image.

9. (Canceled)

10. (Currently amended) The method of ~~claim 9~~ claim 8 further comprising inputting a threshold value of the difference for determining whether a pixel of the printed half-tone image falls into a defect.

11. (Currently amended) The method of ~~claim 9~~ claim 8 further comprising the steps of:

counting the number of defects in the printed half-tone image; and
where the number of defects is greater than a predetermined value,
controlling the printing system to stop printing or auto-purge the defective image from the system.

12. (Canceled)

13. (Canceled)

14. (Canceled)

15. (Canceled)

16. (Canceled)

17. (Canceled)

18. (Canceled)

19. (Canceled)

20. (Canceled)

21. (Currently amended) An apparatus for detecting defects of a printed image to analyze print quality of the printed image wherein a closed feedback loop method is utilized, said apparatus comprising:

(a) a processor for generating first image data for printing an image,
said first image data being half-tone image data, and said half-tone image data

having at least one half-tone values;

(b) a printing engine for printing the image on a substrate based on the first image data;

(c) a scanner for scanning the printed image to obtain a second image data and for sending second image data to the processor in a closed feedback loop method; and

(d) wherein said processor compares the second image data with the first image data to detect defects of the printed image and determine the print quality, including having said processor determine a half-tone value of the printed half-tone image for each pixel and calculate a difference of half-tone values between the printed half-tone image and the originally generated half-tone image, to determine whether a pixel of the printed image is one of the defects.

22. (Previously presented) The apparatus of claim 21 further comprising a memory device for storing a threshold value of a difference of a pixel between the first image and the second image for determining whether the pixel of the printed image falls into a defect.

23. (Previously presented) The apparatus of claim 21 further comprising a scanner for reading an image in an original and sending the original image to the processor.

24. (Previously presented) The apparatus of claim 21 wherein said processor adds at least one reference mark to the first image data to indicate relative pixel locations of the first image data from the one or more reference marks.

25. (Canceled)

26. (Previously presented) The apparatus of claim 24 wherein said reference mark is located at one of corners in the image.

27. (Currently amended) The apparatus of claim 24 wherein said processor compares a pixel of the first image with a pixel of the second image at the same locations from at least one reference mark, ~~calculates a difference between the first image and the second image for each pixel, and determines whether each pixel of the printed image falls into a defect.~~

28. (Previously presented) The apparatus of claim 26 wherein said processor counts the number of defects in the printed image and determines the quality of the printed image based on the number of defects in the printed image.

29. (Canceled)

30. (Currently amended) The apparatus of ~~claim 20~~ claim 21 wherein said processor counts the number of defects in the printed half-tone image and controls the printing apparatus to stop printing or auto-purge the defective image from the system based on the number of defects in the printed image.

31. (canceled)